Application No.: 09/831,915

Reply to the Office Action of: January 13, 2006

REMARKS

The present invention as set forth in **amended Claim 1** relates to a dried hydrogel, prepared by

polymerizing an olefinically unsaturated carboxylic acid or its salts in a polymerization reaction mixture;

admixing the polymerization reaction mixture, before, during or after the polymerization and before drying, with an alkali metal silicate of the general formula I

$$M_2O \times n SiO_2$$
 (I),

wherein M is an alkali metal and n is from 0.5 to 4;

postcrosslinking a resulting polymer;

thereby obtaining a hydrogel containing said postcrosslinked polymer; and drying said hydrogel at an elevated temperature, to obtain said dried hydrogel.

It is an object of the present invention to provide hydrogels capable of absorbing aqueous fluids which have a high absorption capacity, a high gel strength and high absorbency under load. See page 1, lines 16-19 and page 2, lines 26 and 27 of the specification.

<u>US 5,075,371</u> and <u>US 4,707,290</u> fail to disclose or suggest a dried hydrogel as claimed.

<u>US 5,075,371</u> discloses highly cross-linked polymers for use in liquid gas chromatography. However, the polymers are **not post-crosslinked.** <u>US 5,075,371</u> further discloses the use of 2 to 30 wt.% cross-linker (column 6, lines 31 to 41) and does not mention the use of olefinically unsaturated carboxylic acids or its salts as source for these polymers (column 1, lines 43 to 55).

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The polymers of the present invention are water-swellable and therefore low cross-linked (highly cross-linked polymers cannot swell anymore). Thus, the amended claims are not anticipated by or obvious over <u>US 5,075,371</u>.

<u>US 4,707,290</u> discloses a granular adsorbent, comprising water-soluble homopolymers (column 3, lines 35 to 41). In the present invention water-insoluble carboxylic acid polymers are used (specification, page 1, lines 10 and 11). In <u>US 4,707,290</u>, the polymers are **not post-crosslinked**.

Further, regarding **Claim 21**, as shown by the examples the polymers according to the invention are cross-linked copolymers and not homopolymers. In all examples acrylic acid was copolymerized with monomers that have at least two olefinically unsaturated groups: tetraallyoxethane (example 1 and comparative example 1), pentaerythrol triallyether (examples 2 to 15 and 21 to 25 and comparative examples 2 to 4a, 20 and 25), allyl methacrylate (comparative example 16 and inventive examples 17 to 19). Due to the crosslinking, the water-absorbent copolymers are water-insoluble and have high molecular weights. Thus, the amended claims are not anticipated by or obvious over <u>US 4,707,290</u>.

Therefore, the rejection of Claims 1-3, 6, 7, 10-14, 16 and 18-21 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over <u>US 5,075,371</u>, the rejection of Claims 4-5 and 17 under 35 U.S.C. § 103(a) as being unpatentable <u>US 5,075,371</u> and the rejection of Claims 1-4, 6, 7, 10-16 and 18-21 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over <u>US 4,707,290</u> are believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of these rejections is respectfully requested.

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This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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